

AMENDMENTS

In the Claims:

Please substitute the currently pending claims with the following:

Claim 1 (currently amended): A system for animating movable parts of ~~an object along~~ with music, said system comprising:

61 a sequencer module that sequentially provides music control information in correspondence with the music to be played, the music control information including a plurality of types of ~~MIDI~~ music control event data ~~associated to~~ for controlling a sound of the music to be played;

a parameter setting module manually operable to select a type of music control event data from among the plurality of types of the music control event data and operable to set the types of ~~MIDI~~ type of music control event data to each of the movable parts of the object such that the respective movable parts correspond to the types of ~~MIDI~~ music control event data selected and set by the parameter setting module;

an audio module for generating ~~a sound~~ the sound in accordance with each music control event data included in the music control information to thereby play the music; and

a video module responsive to the music control information for controlling movements of the respective movable parts in correspondence to the types of ~~MIDI~~ music control event data included in the music control information sequentially provided from the sequencer module, thereby generating a motion image of the object in matching with progression of the music.

Claim 2 (original): The system as claimed in claim 1, wherein the video module analyzes a data block of the music control information for preparing a frame of the motion image in advance to generation of the sound corresponding to the same data block by the audio module, so that the video module can generate the prepared frame timely when the audio module generates the sound according to the same data block used for preparation of the frame.


Claim 3 (previously presented): The system as claimed in claim 1, wherein the video module successively generates key frames of the motion image in response to the music control information, the video module further generating a number of sub frames inserted between the successive key frames by interpolation to smoothen the motion image while varying the number of the sub frames dependently on a resource of the system affordable to the interpolation.

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Claim 4 (original): The system as claimed in claim 1, wherein the video module generates the motion image of an object representing an instrument player, the video module sequentially analyzing the music control information to determine a rendition movement of the instrument player for controlling the motion image as if the instrument player plays the music.

Claim 5 (previously presented): The system as claimed in claim 1, wherein the parameter setting module sets motion parameters effective to determine the movements of the movable parts of the object, and the video module generates the motion image according to the motion parameters, the video module periodically resetting the motion image to revert the movable parts to the default positions in matching with the progression of the music.

Claim 6 (previously presented): The system as claimed in claim 1, wherein the video module is responsive to the synchronization signal, which is provided from the sequencer module and which is utilized to regulate a beat of the music so that the motion image of the object is controlled in synchronization with the beat of the music.

Claim 7 (previously presented): The system as claimed in claim 1, wherein the sequencer module provides the music control information containing event data specifying an instrument used to play the music, and wherein the video module generate the motion image of an object representing a player with the specified instrument to play the music.

 Claim 8 (previously presented): The system as claimed in claim 1, wherein the parameter setting module sets motion parameters effective to determine the movements of the movable parts of the object, and the video module utilizes the motion parameters to control the motion image of the object such that the movement of each part of the object is determined by the motion parameter, and utilizes the music control information controlling an amplitude of the sound to further control the motion image such that the movement of each movable part determined by the motion parameter is scaled in association with the amplitude of the sound.

Claim 9 (previously presented): The system as claimed in claim 1, wherein the parameter setting module sets motion parameters effective to determine a posture of a dancer object, and wherein the video module is responsive to the synchronization signal provided from the sequencer module for generating the motion image of the dancer object according to the motion parameters such that the dancer object is controlled as if dancing in matching with progression of the music.

Claim 10 (currently amended): An apparatus for animating movable parts of an object along with music, said apparatus comprising:

sequencer means for sequentially providing performance data of the music, the performance data including a plurality of types of ~~MIDI~~ music control event data ~~associated to~~ for controlling a sound of the music to be played;

setting means operable for selecting a type of music control event data from among the plurality of types of the music control event data and setting the ~~types of MIDI~~ type of music control event data to each of the movable parts of the object such that the respective movable parts correspond to the types of ~~MIDI~~ music control event data selected and set by the setting means;

audio means for generating ~~a sound~~ the sound in accordance with each music control event data included in the performance data to thereby perform the music; and

video means responsive to the performance data for controlling movements of the respective movable parts in correspondence to the types of ~~MIDI~~ music control event data included in the performance data sequentially provided from the sequencer means, thereby generating a motion image of the object in matching with the progression of the music.

Claim 11 (original): The apparatus as claimed in claim 10, wherein the video means includes means for analyzing a block of the performance data to prepare a frame of the motion image in advance to generation of the sound corresponding to the same block by the audio means, so that the video means can generate the prepared frame timely when the audio means generates the sound according to the same block used for preparation of the frame.

Claim 12 (previously presented): The apparatus as claimed in claim 10, wherein the video means comprises means for successively generating key frames of the motion image in response to the performance data, and means for generating a number of sub frames inserted between the successive key frames by interpolation to smoothen the motion image while varying the number of the sub frames dependently on a resource of the apparatus affordable to the interpolation.

Claim 13 (original): The apparatus as claimed in claim 10, wherein the setting means comprises means for setting the motion parameters to design a movement of the object representing a player of an instrument, and wherein the video means comprises means utilizing the motion parameters to form the framework of the motion image of the player and means utilizing the performance data to modify the framework for generating the motion image presenting the player playing the instrument to perform the music.

Claim 14 (currently amended): A method of animating movable parts of an object in association with music, said method comprising the step of:

sequentially providing performance data to perform the music, the performance data including a plurality of types of MIDI event data associated to the music to be played;

selecting and setting the types of MIDI event data to the movable parts of the object such that the respective movable parts correspond to the types of MIDI event data selected and set;

generating a sound in accordance with the performance data to thereby perform the music; and

generating a motion image of the object in matching with the progression of the music, wherein the step of generating a motion image is in response to the performance data for controlling movements of the respective movable parts in correspondence to the types of MIDI event data included in the performance data sequentially provided by said step of sequentially providing performance data.

Claim 15 (original): The method as claimed in claim 14, wherein the step of generating a motion picture includes analyzing a block of the performance data to prepare a frame of the motion image in advance to generation of the sound corresponding to the same block so that the prepared frame can be generated timely when the sound is generating according to the same block used for preparation of the frame.

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Claim 16 (previously presented): The method as claimed in claim 14, wherein the step of generating a motion image comprises successively generating key frames of the motion image in response to the performance data, and generating a variable number of sub frames inserted between the successive key frames by interpolation to smoothen the motion image.

Claim 17 (previously presented): The method as claimed in claim 14, wherein the step of selecting and setting the types of event data further comprises providing motion parameters to design a movement of the object representing a player of an instrument, and wherein the step of generating a motion image further comprises utilizing the motion parameters to form the framework of the motion image of the player and utilizing the performance data to modify the framework for generating the motion image presenting the player playing the instrument to perform the music.

Claim 18 (currently amended): A machine readable medium for use in a computer having a CPU and a display, said medium containing program instructions executable by the CPU for causing the computer system to perform a method for animating movable parts of an object along with music, said method comprising the steps of:

~~operating a sequencer module that sequentially provides~~ providing music control information in correspondence with the music to be played, the music control information including a plurality of types of MIDI music control event data ~~associated to~~ for controlling a sound of the music to be played;

displaying on the display a parameter setting interface, said parameter setting interface operable for selecting a type of music control event data from among the plurality of types of music control event data and designating the type of music control event data to each of the movable parts of the object;

~~operating a parameter setting module to select~~ receiving a selection from said parameter setting interface of a type of music control event data from among the plurality of types of music control event data and set the types of MIDI designation of the type of music control event data to each of the movable parts of the object such that the respective movable parts correspond to the types of MIDI music control event data ~~selected and set by the parameter setting module;~~

~~operating an audio module to generate~~ generating a sound in accordance with each music control event data included in the music control information to thereby play the music; and

~~operating a video module~~ in response to the music control information for controlling movements of the respective movable parts in correspondence to the types of MIDI music control event data included in the music control information ~~sequentially provided from the sequencer module, thereby~~ generating a motion image of the object in matching with progression of the music.

Claim 19 (currently amended): The machine readable medium as claimed in claim 18, wherein the ~~video module is operated to analyze~~ motion image is generated by analyzing a data block of the music control information for preparing a frame of the motion image in advance to generation of the sound corresponding to the same data block ~~by the audio module~~, so that the ~~video module can generate~~ the prepared frame is generated timely when the ~~audio module generates~~ the sound is generated according to the same data block used for preparation of the frame.

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Claim 20 (currently amended): The machine readable medium as claimed in claim 18, wherein the ~~video module is operated to successively generate~~ the method further comprises the steps of generating successively key frames of the motion image in response to the music control information, ~~the video module further being operated to generate and generating~~ a number of sub frames inserted between the successive key frames by interpolation to smoothen the motion image while varying the number of the sub frames dependently on a resource of the computer system affordable to the video module.

Claim 21 (currently amended): The machine readable medium as claimed in claim 18, wherein the ~~video module is operated to generate the~~ method further comprises the steps of generating a motion image of an object representing an instrument player, and ~~the video module sequentially~~ analyzing the music control information to determine a rendition movement of the instrument player for controlling the motion image as if the instrument player plays the music.

Claim 22 (currently amended): A system for animating movable parts of an object along with music, said system comprising:

a sequencer module that sequentially provides music control information in correspondence with the music to be played such that the music control information is arranged into a plurality of channels;

51 a parameter setting module manually operable to select a channel of music control information from among the plurality of the channels and operable to set the channels selected channel of the music control information to each of the movable parts of the object such that the respective movable parts correspond to the channels of the selected and set music control information;

an audio module for generating a sound in accordance with the respective channels of the music control information to thereby play the music; and

a video module responsive to the music control information for controlling movements of the respective movable parts in correspondence to the channels of the music control information sequentially provided from the sequencer module, thereby generating a motion image of the object in matching with progression of the music.
